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मानक

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Jawaharlal Nehru

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IS 4981 (1984): Guide pins for foundry pattern plates [MTD 14: Foundry]



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Satyanarayan Gangaram Pitroda

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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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IS : 4981 - 1984

*Indian Standard*  
SPECIFICATION FOR  
GUIDE PINS FOR FOUNDRY PATTERN PLATES  
( *Second Revision* )

UDC 621.744.077 : 621.744.4.062



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**INDIAN STANDARDS INSTITUTION**  
**MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG**  
**NEW DELHI 110002**

**Gr 2**

*October 1984*

**AMENDMENT NO. 1 MARCH 1989**  
**TO**  
**IS : 4981 - 1984 SPECIFICATION FOR GUIDE**  
**PINS FOR FOUNDRY PATTERN PLATES**

( *Second Revision* )

( *Page 4, clause 7.1* ) — Insert the following after 7.1 and renumber the subsequent clauses:

**‘8. SAMPLING**

**8.1** Scale of sampling and criteria for conformity for visual characteristics (workmanship and finish) and dimensions shall be as given in Table 2 of IS : 6821-1973\*.

**8.2** For hardness, the scale of sampling and criteria for conformity shall be as given in Table 1 of IS : 6821-1973\*.

**8.3** The necessary samples as required in 8.1 and 8.2 shall be selected equally at random from the cartons

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\*Methods for sampling non-threaded fasteners

( SMDC 17 )

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**Indian Standard**  
**SPECIFICATION FOR**  
**GUIDE PINS FOR FOUNDRY PATTERN PLATES**  
**( Second Revision )**

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**IS : 4981 - 1984**

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*Indian Standard*  
**SPECIFICATION FOR**  
**GUIDE PINS FOR FOUNDRY PATTERN PLATES**  
*( Second Revision )*

**0. FOREWORD**

**0.1** This Indian Standard ( Second Revision ) was adopted by the Indian Standards Institution on 31 May 1984, after the draft finalized by the Foundry Sectional Committee had been approved by the Structural and Metals Division Council.

**0.2** This standard was first issued in 1968 and was subsequently revised in 1975. On the basis of experience gained during these years it has been decided to revise this standard to make it more practicable. In this revision, the material requirement and dimensions of the guide pins have been modified.

**0.3** Guide pins are fixed in the pin holes of the pattern plate by means of washers, spring washers, nuts or lock nuts to superimpose the moulding boxes.

**0.4** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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**1. SCOPE**

**1.1** This standard covers the requirements for guide pins for foundry pattern plates.

**2. SUPPLY OF MATERIAL**

**2.1** General requirements relating to the supply of guide pins shall conform to IS : 1387-1967†.

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\*Rules for rounding off numerical values ( revised ).

†General requirements for the supply of metallurgical materials ( first revision )



**IS : 4981 - 1984**

### **3. MATERIAL**

**3.1** Guide pins shall be machined from steel conforming to class 1A of IS : 1875 and shall be case carburized, hardened and tempered to 40/45 HRC and the case depth shall be maintained to 0.25 mm, *Min.*

**3.1.1** Higher hardness of the pin may also be supplied if agreed to between the manufacturer and the user.

### **4. SHAPE AND SIZE**

**4.1** The shape and sizes of guide pins shall be in accordance with Tables 1 and 2.

### **5. SCREW THREADS**

**5.1** As indicated in the figures given in Tables 1 and 2, the left-hand end of the pin shall be threaded. The threads shall conform to IS : 4218 ( Part 3 )-1976\*.

### **6. DESIGNATION**

**6.1** Guide pin ( *A* ) for round holes shall be designated by the nominal diameter (  $d_1$  ) and nominal length (  $l_1$  ) of the pin. For example, a guide pin of nominal diameter 22 mm and nominal length 135 mm shall be designated as guide pin ( *A* ) 22 × 135 IS : 4981.

**6.2** Guide pin ( *B* ) for elongated bush holes shall be designated by the nominal width across flat (  $b_1$  ) and nominal length (  $l_1$  ) of the pin. For example, a guide pin of nominal width across flat 22 mm and nominal length 175 mm shall be designated as guide pin ( *B* ) 22 × 175 IS : 4981.

### **7. WORKMANSHIP AND FINISH**

**7.1** All guide pins shall be made cleanly and neatly and shall be free from burrs, scales and tool marks

### **8. PACKING**

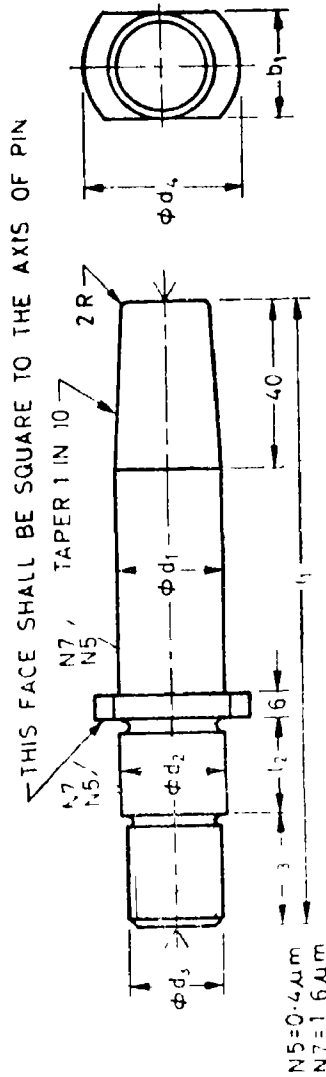
**8.1** The guide pins may be packed in cartons or boxes with a coating of suitable rust preventive, in quantities of 10, 20, 50 or 100. The size and quantity shall be clearly indicated on the cartons or boxes.

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\*Basic dimensions for design profile ( *first revision* ).

**TABLE 1 DIMENSIONS OF GUIDE PINS (A) FOR PATTERN PLATES TO GUIDE ROUND BUSH HOLES OF MOULDING BOXES**  
(Clauses 4.1 and 5.1)

All dimensions in millimetres.



SIZE OF PATTERN PLATE  
mm x mm

GUIDE PIN (A) DIMENSIONS							
$d_1$ ( $d_{10}^*$ )	$d_2$ ( $h_8^*$ )	$d_3$	$d_4$	$b_1$ ( $h_{13}^*$ )	$l_1$	$l_2$	$l_3$
19	19	16	30	24	130	22	25
22	22	20	32	27	135	22	30
25	25	24	36	32	150	27	36
30	30	24	40	36	150	32	36

From	345 x	345
to	660 x	660
From	750 x	440
to	1 040 x	1 040
From	1 170 x	680
to	1 450 x	1 450
From	1 650 x	950
to	2 050 x	2 050

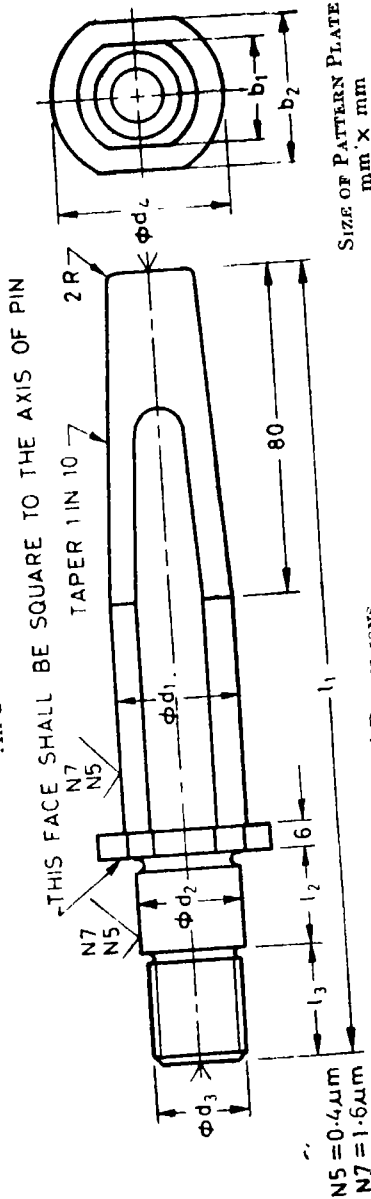
NOTE — These guide pins though recommended for round bush holes may also be used for elongated bush holes of moulding boxes at the discretion of the purchaser.

\*Deviations in accordance with IS : 919-1963 Recommendations for limits and fits for engineering (revised).

TABLE 2 DIMENSIONS OF GUIDE PINS (B) FOR PATTERN PLATES TO GUIDE ELONGATED BUSH HOLES OF MOULDING BOXES

(Clauses 4.1 and 5.1)

All dimensions in millimetres.



SIZE OF PATTERN PLATE  
mm' x mm

GUIDE PINS (B) DIMENSIONS

$b_1$ ( $d_{10}$ )	$d_1$ ( $h_{11}$ )	$d_2$ ( $h_8$ )	$d_3$	$d_4$	$b_2$ ( $h_{13}$ )	$l_1$	$l_2$	$l_3$
19	22	19	16	30	24	170	22	25
22	25	22	20	32	27	175	22	30
25	28	25	24	36	32	190	27	36
30	34	30	24	40	36	190	32	36
Size of Pattern Plate mm' x mm								
From 345 x 345 to 660 x 660								
From 750 x 440 to 1 040 x 1 040								
From 1 170 x 680 to 1 450 x 1 450								
From 650 x 950 to 2 050 x 2 050								

\*Deviations in accordance with IS : 919-1963 Recommendations for limits and fits for engineering (revised).

## **9. MARKING**

**9.1** The cartons or boxes containing the guide pins shall be suitably marked to indicate size, quantity and the manufacturer's name or trade-mark.

**9.1.1** The cartons or boxes containing the guide pins may also be marked with the ISI Certification Mark.

**NOTE** — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution ( Certification Marks ) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

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